



F3B5217 NMR-Microscopy of Materials 6.0 credits

NMR-mikroskopi av material

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for F3B5217 valid from Autumn 2014

Grading scale

Education cycle

Third cycle

Specific prerequisites

The course requires a background equivalent to or better than a course covering the classical description (incl rotating frame, the effect of radiofrequency pulses, time- and frequency-domain signal, relaxation times, simple pulse sequences) of NMR.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The course introduces the students to basic principles of NMR imaging (MRI) and diffusion such as use of gradients, k-space, slice selection, and projection reconstruction and to particular imaging and diffusion sequences and contrast-determining factors. Applications will be discussed and demonstrated.

Course contents

The course consists of seminars that will be prepared and delivered by the students and accompanying discussion.

Course literature

Litteratur P. T. Callaghan, Principles of Nuclear Magnetic Resonance Microscopy, W. S. Price, NMR Studies of Translational Motion: Principles and Applications.

Examination

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

Participation at the seminars and completed home exercise. The course will end with an oral examination.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.